

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-31 are pending, with Claims 1-3, 5, 7-10, 14 and 25-26 amended by the present amendment.

In the Official Action, Claim 31 was withdrawn from consideration; Claims 1, 10, 17, and 21 were objected to; Claim 14 was rejected under 35 U.S.C. § 112, second paragraph; Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Chu ("Fiber Optic Microcellular Radio") in view of Knowles et al. (U.S. Patent No. 6,827,265, hereinafter "Knowles"); Claim 12 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Chu and Knowles in view of Schreib (U.S. Patent No. 6,347,223); Claim 15 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Chu and Knowles in view of Arredondo et al. ("Techniques for improving in-building radio coverage using fiber-fed distributed antenna networks," hereinafter "Arredondo"); Claims 16, 19, 22, and 23-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Chu and Knowles in view of Ragle et al. (U.S. Patent No. 6,492,910, hereinafter "Ragle"); and Claims 1-8, 10, 11, 13, 17, 18, 20-21, 23, and 27 were indicated as containing allowable subject matter.

Applicants traverse the objection to Claims 17 and 21 as the term ALOHA is not an acronym. Applicants submit that one skilled in the art would know that ALOHA is a communication channel multiple access protocol invented at the University of Hawaii.

Claims 1-3, 5, 7, 8, 10, 17, 25 and 26 are amended to spell out the acronym QAM and to correct additional informalities noted by Applicants. Claim 14 is amended in response to the outstanding rejection under 35 U.S.C. § 112, second paragraph. No new matter is added.

In view of the amendment to Claim 1, Applicants submit that Claims 1-8 are in condition for allowance.

Claim 9 is amended to clarify that the claimed cellular communication network is a one-way network, rather than a bidirectional network. Support for this amendment is found in Applicants' originally filed specification. No new matter is added.

Briefly recapitulating, Claim 9 is directed to:

A cellular *one-way* communication network, comprising:

a plurality of first nodes configured to transmit a first data packet on a predetermined frequency;

a first base station configured to receive signals transmitted on the predetermined frequency;

a second base station locationally dispersed from the first base station and configured to receive signals transmitted on the predetermined frequency; and

a data concentrator, wherein

the plurality of first nodes are configured to transmit using a duty cycle of less than 0.1% and to transmit a unique identification parameter,

the first base station and the second base station are arranged in a configuration such that a first coverage area of the first base station at least partially overlaps a second coverage area of the second base station,

the first base station and the second base station each receive the first data packet transmitted by at least one of the plurality of first nodes, and

the data concentrator is configured to collect the first data packet received by the first base station and the first data packet received by the second base station.

Chu describes a *two-way* fiber optic microcellular radio system with fibers and canisters inserted between the mobile units and the base station. In one embodiment of Chu, a moving automobile communicates with a canister via UHF radio. The canister includes an optical/RF transducer. RF signals are converted to optical signals and sent to a base station via optical fibers. Multiple base stations are connected to a mobile telephone switching node. The base stations are capable of handoff.¹ However, Chu does not describe a *one-way*

¹ Chu Figure 1.

communication network. Applicants submit that it would not be obvious to adapt the two-way communication network of Chu into a one-way communication network.

In addition, as acknowledged in the Official Action, Chu does not disclose or suggest any nodes that are configured to transmit using a duty cycle of less than 0.1% and to transmit a unique identification parameter. To cure this deficiency, the Official Action applies Knowles. Knowles describes an automatic vehicle classification and identification system for use along a roadway. The system uses first and second planar light illumination and imaging (PLIIM) based imaging and profiling subsystems mounted above and alongside of the roadway. The subsystems profile the geometry of top and side surfaces of each vehicle traveling on the roadway and captures digital images of both the front and rear license plates on the vehicle. In one embodiment of Knowles, a camera control computer 1293 transmits a control signal to a VLD drive circuit 11, causing each PLIM to generate a pulsed-type planar laser illumination beam (PLIB) consisting of planar laser light pulses having a very low duty cycle (e.g., as low as 0.1%) and a high repetition frequency (e.g., greater than 1 KHz) so as to function as a non-visible PLIB-based object sensing beam (and/or barcode detection beam).²

Applicants submit that the outstanding rejection of Claim 9 under 35 U.S.C. § 103(a) is improperly based upon hindsight reasoning. First, Applicants submit that Chu and Knowles are not analogous art. MPEP 2141.01(a) I notes that to rely on a reference under 35 U.S.C. 103, the reference must be analogous prior art. For the electrical arts, MPEP 2141.01(a) V refers to *Wang Laboratories, Inc. v. Toshiba Corp.*, 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993) (Patent claims were directed to single in-line memory modules (SIMMs) for installation on a printed circuit motherboard for use in personal computers. Reference to a SIMM for an industrial controller was not necessarily in the same field of endeavor as the claimed subject matter merely because it related to memories. *Reference was*

² Knowles column 331, lines 20-30.

found to be in a different field of endeavor because it involved memory circuits in which modules of varying sizes may be added or replaced, whereas the claimed invention involved compact modular memories. Furthermore, since memory modules of the claims at issue were intended for personal computers and used dynamic random-access-memories, whereas reference SIMM was developed for use in large industrial machine controllers and only taught the use of static random-access-memories or read-only-memories, the finding that the reference was nonanalogous was supported by substantial evidence.).

MPEP 2141.01(a) V also refers to *Medtronic, Inc. v. Cardiac Pacemakers*, 721 F.2d 1563, 220 USPQ 97 (Fed. Cir. 1983) (Patent claims were drawn to a cardiac pacemaker which comprised, among other components, a runaway inhibitor means for preventing a pacemaker malfunction from causing pulses to be applied at too high a frequency rate. Two references disclosed circuits used in high power, high frequency devices which inhibited the runaway of pulses from a pulse source. The court held that one of ordinary skill in the pacemaker designer art faced with a rate-limiting problem would look to the solutions of others faced with rate limiting problems, and therefore the references were in an analogous art.).

Applicants submit that the present matter aligns with *Wang* and not *Medtronic*. That is, Chu is directed to automobile communications to a control tower, while Knowles is directed to laser monitoring of automobile license plates. The mere fact that both Chu and Knowles are related to automobiles is not enough to say that these references are directed to analogous art. Furthermore, Chu is directed to RF transmissions, while Knowles is directed to laser transmissions. Applicants submit that a laser scanner is not analogous to a cell phone, and that one skilled in the art of mobile radio communications would not look to laser scanners such as Chu when addressing questions of power conservation for RF communications.

In addition, in KSR v. Teleflex (550 U.S. ____ (2007)), the Court noted that “[u]nder the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” The Court also noted that “a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under §103.”

However, the Court went on to note that “rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some *rational* underpinning to support the legal conclusion of obviousness.” Here, however, it is respectfully submitted that the Official Action fails to provide a *rational* underpinning to support the legal conclusion of obviousness, for augmenting the fiber optic microcellular radio system of Chu with the laser control processing of Knowles.

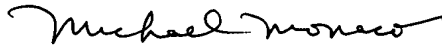
The reason that Knowles uses a particular duty cycle is not to save power, as suggested by the Official Action. Instead, Knowles is explicit in describing the laser duty cycle is to control a non-visible PLIB-based object sensing beam. That is, in Knowles the duty cycle is used to generate pulses because a steady (non-pulsed) laser would not properly scan and detect the license plates/bar code symbols. In a typical bar code device, the duty cycle of pulses used during scanning is set to bring the total received light energy during scanning into an appropriate range for the detector. The longer the pulse, the more light energy will be reflected. If an average amount of detected light is too high, the duty cycle may be made shorter, resulting in less light energy being captured. In addition, in bar code scanning systems, a laser is energized with electrical pulses having a duty cycle that is established so that the average output laser power does not exceed the level required by

government regulations. Thus, the duty cycle of a bar code laser is used to control reflected light levels and/or to comply with safety regulations. The duty cycle of a bar code laser is not established to save power. In view of the preceding discussion, Applicants submit that, absent impermissible hindsight, there exists no rational reason to import the laser pulse duty cycle of Knowles into the fiber optic microcellular radio system of Chu. Thus, Applicants respectfully traverse the outstanding grounds for rejection under 35 U.S.C. § 103(a) based on Knowles and Chu, and respectfully request that these grounds for rejection be withdrawn.

Consequently, in view of the present amendment and in light of the previous discussion, Applicants respectfully submit that the present application is in condition for allowance and respectfully request an early and favorable action to that effect.

Respectfully submitted,

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